

developed by the guest at the point of contact. The parasitism appears to be complete, as the broomrape has no soil roots.

Perhaps the reason for the existence of some discrepancy and uncertainty as to the real host of some of the species of the broomrapes is due to the fact that they have not been kept under observation until the parasite had matured and withered.

The accompanying cut, made from a photograph and reduced to one-fourth natural size, shows in a striking manner how the one root of the ragweed has grown at the expense of the rest.—J. SCHNECK, *Mt. Carmel, Ill.*

### BIDENS CONNATUS MÜHLENBERG.

IN THE year 1874 I found on lake Ruppın a form of *Bidens*, distinguishable at a glance from our two indigenous species (*B. tripartitus* and *B. cernuus*) by its basal bushy branching, the light green color of its almost always undivided stem-leaves narrowed into a short petiole. Upon closer observation I found that the involucre bracts of the flower heads were mostly in fives, always non-ciliate, and longer than in *B. tripartitus*. Moreover the mature fruits always have four awns and the epidermis rather large warts (Höcker). These peculiarities led me to characterize this form (in *Verhandl. des bot. Ver. der Prov. Brandenburg* 1879: 157-158) under the name *B. tripartitus* L. var.? *fallax*.

Since then, chiefly on account of my bryological studies, the plant has not come to my notice, until it turned up again in the autumn of 1895 on raft-logs in our lake. Of course I recalled having seen and remarked it many years before, but my especial notice of it in 1879 had entirely escaped my memory; thus it happened that after a thorough investigation, laying more stress upon the specific value of the warty four-awned fruit, I published it (in *Österr. bot. Zeitschrift* 45: 392, 1895) as *B. decipiens*.

Meanwhile, my long-time friend Professor Dr. Ascherson of Berlin, who had become interested in the plant, made an examination of the Berlin Botanical Museum and referred our plant, by Mühlenberg's type specimen, in Willdenow's herbarium under no. 15,021, to *B. connatus*. The matter would have been thereby settled had I not already received from various parts of North America as *B. connatus* an entirely different plant. In this the fruits are always smooth and usually two-awned, only occasionally having a shorter median awn. They are, thus, just

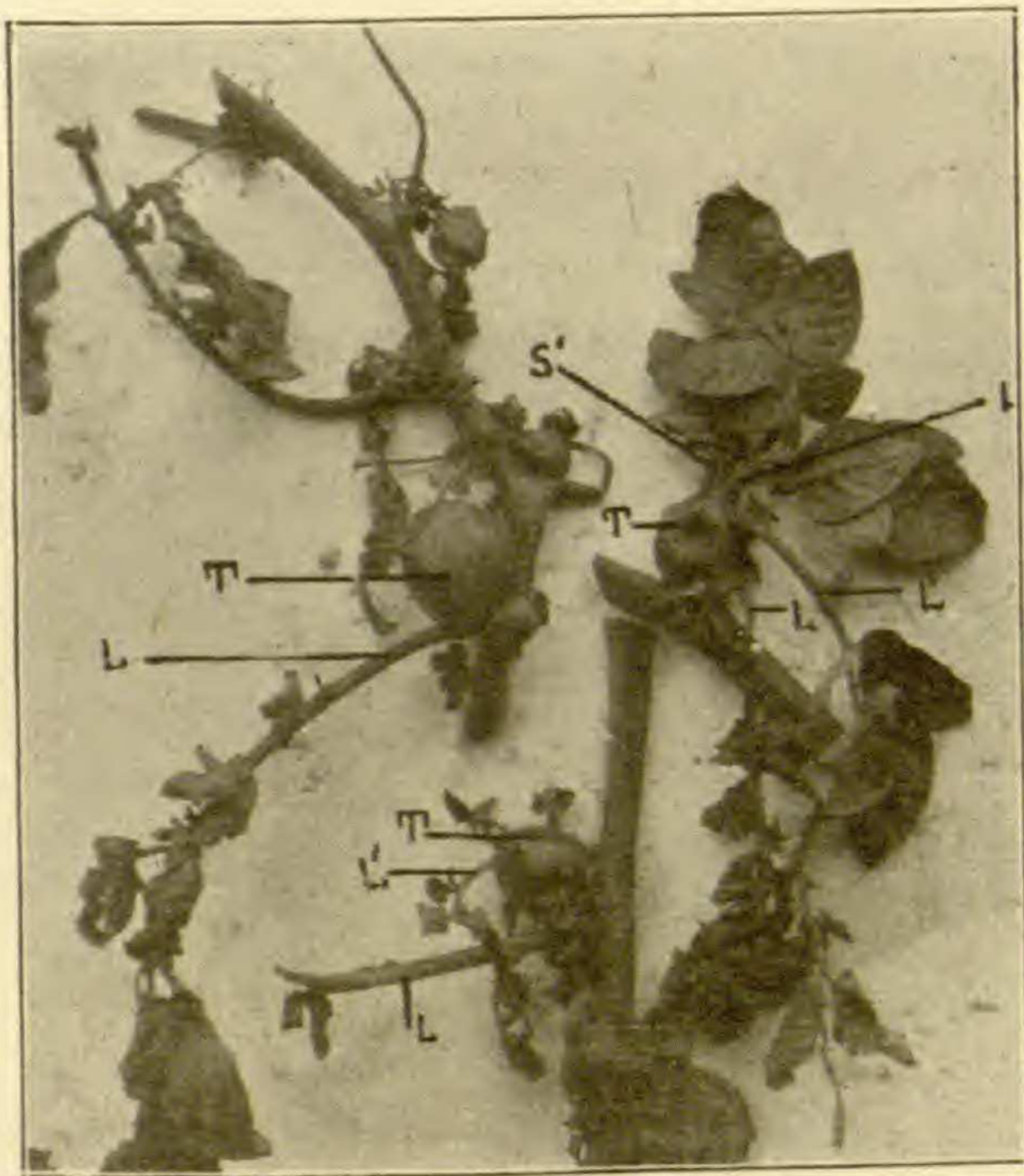


like those of *B. tripartitus*. On this account the specimens from the United States heretofore seen by me cannot possibly be identified with Mühlenberg's type in the Willdenow herbarium, but belong to another good species.

It would be of great phytogeographic interest if the botanists of the United States would observe, now in their herbaria and next season in the field, whether *B. connatus* really occurs there with warty four-awned fruits, as in Europe, or whether this plant is there found only with smooth two to three-awned fruits. Perhaps there can be found in some of the older herbaria Mühlenberg's types, which might show whether the fruits are smooth or warty, two- or four-awned. In any case I should be greatly obliged for information on this point.—C. WARNSTORF, *Neuruppin, Germany*.

#### AERIAL TUBERS OF SOLANUM TUBEROSUM.

IN December 1895, some interesting specimens of aerial tubers were found on *Solanum tuberosum* in the garden of the steward of the



Louisiana State University and Agricultural and Mechanical College, at Baton Rouge. My attention was called to them by Mr. Holmes,